AMENDMENTS TO THE SPECIFICATION:

Amend the specification as follows:

After line 10 on page 1, insert the following heading:

1. Field of the Invention

After line 14 on page 1, insert the following heading:

2. Description of the Related Art

Paragraph starting at line 26 on page 1 has been amended as indicated below:

Because of the stepwise state density, the carriers experience restriction with regard to the energy distribution in such a system, and thus, the use of a quantum well structure in an optical semiconductor device such as a laser diode leads to an advantageous feature of sharp and narrowly confined optical spectrum, which is superior to the spectrum of a laser diode that uses a bulk semiconductor crystal. In the case of light-emitting devices including laser diodes, the use of a quantum well structure further provides improvement in the efficiency of optical emission. Further, a quantum well structure can be used also as an energy filter in electron devices having a resonant tunneling barrier such as RHET (resonant hot-electron transistor).

Paragraph starting at line 22 on page 7 has been amended as indicated below:

Thus, quantum optical semiconductor devices that use quantum dots formed by the S-K mode growth process generally show remarkable polarization dependence, and because of this, it has been difficult to construct a photonic network, which requires polarization-free optical characteristics for the components constituting the network, by using such conventional quantum optical semiconductor devices unless an additional optical system is provided for compensating for the polarization-dependence of the quantum dots. However, such an additional optical system is complex and increases the cost of the optical network.

Paragraph starting at line 5 on page 14 has been amended as indicated below:

Referring to FIG.4A, it can be seen that the there occurs a decrease of the PL peak energy with an increase [[of]] in the number of stacks and converges to the value of about 1.5eV when the number of the stacks has exceeded 20 or 30. It is believed that this represents the existence of quantum-mechanical coupling of the individual quantum dots, which leads to formation of a large quantum dot as a whole from a number of quantum dots thus stacked.